

Serial No. 10/083,949  
Attorney Docket No. 67008-040/S-5449/5452

### REMARKS

#### §103 Rejection Over Hodgson and Millot

The Examiner has rejected claims 1-8 as obvious over Hodgson (US 5,526,292) in view of the Millot, et al article, "Flight Test of Active Gear-Mesh Noise Control on the S-76 Aircraft." The Examiner indicates that Hodgson does not disclose adding a dither signal to each of a plurality of control commands, but that it would be obvious to modify Hodgson in view of Millot to meet the terms of claims 1-8. Applicant respectfully disagrees.

Millot does not teach adding a dither signal to a plurality of control commands or updating the estimate of the relationship based upon the measured response to the dither signal being added to the control commands. The Examiner refers to Figure 4 of Millot, where a reference signal from the Tach Sensor is presumed to indicate the disturbance frequency. This is not a dither signal that is added to the control commands and is not used to update the relationship, but is used to demodulate the sampled noise and to remodulate the control commands. Millot states, "In the narrow bandwidth required for control about each tone, the actuator/sensor transfer function is roughly constant . . ." Thus, Millot does not disclose updating the transfer function at all. Therefore, claims 1-8 should be allowed.

#### §102 Rejection Over Hodgson

The Examiner has rejected claims 9-12 as anticipated by Hodgson. Claim 9 specifies "varying the size of the update . . . based upon a magnitude of change over time by at least one of the plurality of control commands." The Examiner states that Hodgson

Serial No. 10/083,949  
Attorney Docket No. 67008-040/S-5449/5452

varies the size of the update based upon "a magnitude of change over time," referring to a "relative magnitude of a broadband signal emanating from a vibrational energy source to a controller." Applicant disagrees with this characterization of Hodgson; however, the Examiner does not even suggest that Hodgson discloses basing the size of the update on a magnitude of change by at least one of the control commands. However, Applicant has amended claim 9 for clarification, by adding the step of determining the magnitude of change over time by at least one of the plurality of control commands and by reciting that the step of "varying the size of the update" is based upon this determination of the magnitude of the change by the at least one control command. Claim 28 has been similarly amended. Therefore, claims 9 and 28 are patentable over Hodgson.

The Examiner has rejected claim 20 as anticipated by Hodgson. Hodgson does not disclose adding a signal to each of the plurality of control commands and measuring the response to update the estimate of the relationship. Hodgson does not disclose adding a signal to the control commands that were determined by the estimate of the relationship. Hodgson only generates control commands that are based upon the estimate of the relationship. Hodgson does not ever add a signal to the control command that was generated based upon the estimate of the relationship. Therefore, claim 20 is not anticipated by Hodgson.

Additionally, Hodgson does not disclose holding constant the control command to which the signal is added and updating the other control commands according to the relationship. Therefore, claim 24 is independently patentable.

Nor does Hodgson disclose updating the relationship only for the control command to which the signal is added. Again, no signal is added, as explained above,

Serial No. 10/083,949  
Attorney Docket No. 67008-040/S-5449/5452

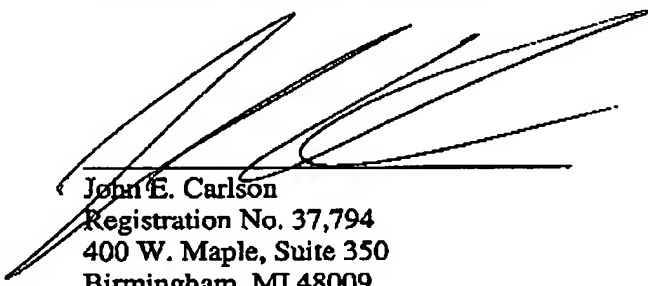
but in any event there is no disclosure in Hodgson of updating only the relationship for that control command.

**\$102 Rejection Over Millot**

The Examiner has rejected claims 33 and 34 as anticipated by Millot. Millot does disclose that a change in the sensed physical variables  $\Delta z$  is related to a change in the control commands  $\Delta u$  by  $\Delta z = T(\Delta u)$ , but does not disclose that the control unit filters  $\Delta u$  to match a known filter on  $\Delta z$ . Figure 4 of Millot does not disclose filtering  $\Delta u$  or having that filter match a known filter on  $\Delta z$ . Therefore, claim 33 is not anticipated by Millot.

Please charge \$258 for three additional independent claims to Deposit Account No. 50-1482. If any additional fees or extensions of time are required, please charge to Deposit Account No. 50-1482.

Respectfully submitted,  
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